AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 12, as follows:

In a normal field of vision, humans have ~~the~~ two eyes that perceive images which the eyes view from two different viewpoints, respectively, due to their spatial separation of the eyes in the head. Parallax of the two images allows the humans ~~brain~~ brain to recognize ~~by the brain~~ the images from the two different viewpoints as a stereoscopic image. By utilizing this principle, there has been developed a liquid crystal display which causes an observer to view and recognize images from two different viewpoints through the right eye and the left eye, respectively, so as to generate parallax, thereby ~~carrying out~~providing a 3D (three-dimensional) display.

Please amend the paragraphs beginning at page 2, line 23, and continuing to page 5, line 4, as follows:

Further, the aforementioned 3D display apparatus and the display apparatus which supplies different images to respective observers employ display-use liquid crystal panels, which basically have a same structure. In each of the display-use liquid crystal panels, each pixel pattern includes TFT devices and transparent pixel electrodes, for example. Further, each of the pixel patterns is disposed, in a matrix manner, at each intersection of a gate line and a source line. The gate lines and the source lines are isolated by an interlayer insulating film interposed in between ~~(not shown)~~.

In such a liquid crystal display panel, normally, there is not sufficient liquid crystal capacitance between a pixel electrode and an opposing electrode ~~(not shown)~~. Therefore, an auxiliary capacity line is provided in parallel to a gate line. When extending a drain

electrode of a TFT device up to the auxiliary capacity line, a section in which the drain electrode and the auxiliary capacity line are superimposed is formed. This allows an auxiliary capacitor (an electric charge holding capacitor) to be formed between the drain electrode and the auxiliary capacity line in the superimposed section. An insulating layer between the drain electrode and the auxiliary capacity line in the superimposed section acts as an insulating material.

However, inventors of the present invention have found that when the conventional liquid crystal panel is used in a 3D display apparatus or the like, crosstalk occurs even in the optimum viewing position, where no crosstalk is supposed to occur according to the publication Tokukaihei 8-110495. This causes ~~a~~ display performance to be degraded due to the crosstalk.

Please amend the caption on page 7, line 4 as follows:

~~DISCLOSURE OF INVENTION~~BRIEF SUMMARY

Please amend the paragraphs beginning at page 7, line 5, and continuing to page 7, line 20, as follows:

The ~~present invention~~ technology disclosed herein is made to solve the foregoing problems, and ~~an object of the present invention is~~ to provide a display panel and a display apparatus each of which suppresses a crosstalk due to diffraction phenomenon and improves a 3D display and a display which supplies different images to a plurality of observers.

To attain the above object, a display panel of an example embodiment~~the present invention~~ includes: display image

generating means for generating a display image according to inputted display data; and display image separating means for separating the display image, at one time or in a time division manner, according to a plurality of viewpoints, the display image generating means being an active matrix type display panel, aperture sections in each pixel pattern of the display panel having a width set so as to satisfy the following inequality[[,]]:

Please amend the paragraphs beginning at page 8, line 2, and continuing to page 8, line 21, as follows:

According to the arrangement, by setting the width of the aperture sections in each pixel pattern to the range specified above, it is possible for [[a]] crosstalk to have a value of less than 5.6, the crosstalk occurring due to a diffraction phenomenon during a display in which a display image is separated according to a plurality of respective viewpoints at one time or in a time division manner. This allows a reduction in negative effects on the visibility.

Further, to attain the above object, another display panel of an example embodiment~~the present invention~~ includes: display image generating means for generating a display image according to inputted display data; and display image separating means for separating the display image, at one time or in a time division manner, according to a plurality of viewpoints, the display image generating means being an active matrix type display panel, aperture sections in each pixel pattern of the display panel having a width set so as not to fall within a range specified by the following inequality: 2 μm < (minimum width of the aperture sections in the pixel) < 7 m.

Please amend the paragraph beginning at page 9, line 8, as follows:

To attain the above object, another display panel of the an example embodiment~~present invention~~ includes: display image generating means for generating a display image according to inputted display data; and display image separating means for separating the display image, at one time or in a time division manner, according to a plurality of viewpoints, the display image generating means being an active matrix type display panel, a light shielding film being provided to avoid that the light enters aperture sections, in each pixel pattern of the display panel, having a narrow gap.

Please amend the paragraph beginning at page 10, line 1, as follows:

Additional objects, features, and strengths of the technology disclosed herein~~present invention~~ will be made clear by the description below. Further, the advantages of the technology disclosed herein~~present invention~~ will be evident from the following explanation in reference to the drawings.

Please amend the paragraphs beginning at page 10, line 8, as follows:

Fig. 1 is a plan view illustrating a pixel pattern on a displaying panel according to one example embodiment~~ of the present invention~~.

Fig. 2 is a cross-sectional view illustrating an exemplary structure of a 2D/3D switching type liquid crystal display panel to which the technology disclosed herein~~present invention~~ is applied.

Please amend the paragraphs beginning at page 11, line 9, as follows:

Fig. 7(a) is a plan view illustrating an exemplary structure in which light-shielding films are disposed on aperture sections having a narrow gap in a pixel pattern on a displaying panel according to one example embodiment ~~of the present invention~~.

Fig. 7(b) is a plan view illustrating another exemplary structure in which light-shielding films are disposed on aperture sections having a narrow gap in a pixel pattern on a displaying panel according to one example embodiment ~~of the present invention~~.

Please amend the caption on page 12, line 1, as follows:

DETAILED DESCRIPTION~~BEST MODE FOR CARRYING OUT THE INVENTION~~

Please amend the paragraphs beginning at page 12, line 2, as follows:

With reference to figures, one example embodiment ~~of the present invention~~ is described below.

First, Fig. 2 illustrates a schematic structure of a 2D/3D switching type liquid crystal display panel of an example embodiment~~the present embodiment~~. Note that, the present embodiment takes as an example a liquid crystal display panel of the technology disclosed herein~~present invention~~ applied to a 2D/3D switching type liquid crystal display panel.

Please amend the paragraph beginning at page 13, line 6, as follows:

The patterned retardation plate 20 functions as a part of a parallax barrier. As shown in Fig. 3(a), the patterned retardation plate 20 includes a transparent substrate 21, an alignment film 22, and a liquid crystal layer 23, which are stacked upwards from bottom in this order. In an active area of the patterned retardation plate 20, as shown in Fig. 3(b), first regions 20A (~~shaded~~ hatched regions in the figure) and second regions 20B (~~projected~~ stippled regions in the figure), having different polarization states, are arranged alternately in a stripe pattern. Further, the patterned retardation plate 20 is provided with an alignment mark 20c, which is formed in the same process for forming the first region 20A.

Please amend the paragraph beginning at page 14, line 14, as follows:

~~Next, t~~The following describes a display operation of the 2D/3D switching type liquid crystal display panel arranged in the foregoing manner.

Please amend the paragraph beginning at page 15, line 6, as follows:

The light having passed through the switching liquid crystal panel 30 then enters the patterned retardation plate 20. In the first region 20A and the second region 20B of the patterned retardation plate 20, rubbing directions, i.e. directions of slow axes, are different. Therefore, light having passed through the first region 20A and light having passed through the second region 20B are polarized differently. In Fig. 4, the polarization axis of ~~the~~ light passing through the first region 20A and the polarization axis of the passing through the second region 20B are shifted from each other by 90°. The birefringence anisotropy and thickness of the liquid

crystal layer 23 is set so that the patterned retardation plate 20 serves as a half wave plate.

Please amend the paragraphs beginning at page 16, line 18, and continuing to page 17, line 11, as follows:

The light having passed through the second polarizing plate 15 is subjected to optical modulation in the liquid crystal layer 13 of the display-use liquid crystal panel 10. ~~Here, t~~The optical modulation is different for the pixels undergoing black display and the pixels undergoing white display. Only the light having subjected to optical modulation of the pixels undergoing white display is transmitted through the first polarizing plate 11, which thus provides image display.

~~Here, i~~In the 3D display mode, light-transmitting region light rays are given specific viewing angles as the light rays pass through the light-transmitting regions of the parallax barrier. Then, the light rays pass display-use liquid crystal panel 10 through pixels corresponding to a right eye image and pixels corresponding to a left eye image of the display-use liquid crystal panel 10. This causes the separation between the right eye image and the left eye image with respectively different viewing angles, thus providing a 3D display.

Please amend the paragraphs beginning at page 18, line 12, and continuing to page 21, line 1, as follows:

~~Note that, t~~The foregoing takes as an example a liquid crystal display panel of the technology disclosed herein~~present invention~~ applied to a 2D/3D switching type liquid crystal display panel. However, an object of the technology disclosed herein~~present~~

~~invention~~ is to prevent crosstalk due to diffraction phenomenon in a display-use liquid crystal panel used in a 3D display apparatus or a display apparatus which supplies different images to a plurality of observers. Thus, the technology disclosed herein~~present invention~~ may be applied to (i) a 3D type liquid crystal display panel or 3D type liquid crystal display apparatus which does not include the switching liquid crystal panel 30 (i.e. an exclusive arrangement for the 3D display) or (ii) a display apparatus which supplies different images to respective observers (an arrangement allowing switching between a display mode in which different images are supplied to respective observers and a normal display mode, or an exclusive arrangement for displays of different images to respective observers).

In the case where the technology disclosed herein~~present invention~~ is applied to (i) the 3D type liquid crystal display panel which does not include a switching liquid crystal panel or (ii) the display apparatus which supplies different images to respective observers, a half wave plate is provided instead of the switching liquid crystal panel, and a slow axis of the half wave plate is adjusted to be in a rubbing direction of the switching liquid crystal panel. However, the third polarizing plate 34 shown in Fig. 2 remains on the light source side of the half wave plate, which is provided instead of the switching liquid crystal panel (on the surface of the patterned retardation plate 20 opposite to its surface to which the liquid crystal panel 10 is bonded).

The technology disclosed herein~~present invention~~ is not limited to the foresaid liquid crystal display panel or liquid crystal display apparatus. The technology disclosed herein~~present invention~~ is applied to (i) a display panel or display apparatus which has, instead of the switching liquid crystal panel 30 or the patterned

retardation plate 20, a parallax barrier made of a light shielding material such as a light shielding metal film or black resin, or (ii) a display panel or display apparatus in which a light shielding material is directly deposited in a stripe pattern on the opposing substrate 12 or the active matrix substrate 14. Needless to say, the display panel or the display apparatus which employs such a parallax barrier can be applied to the display panel or the display apparatus exclusive for (i) the 3D display or (ii) the displays of different images to respective observers.

The technology disclosed hereinpresent invention is not limited to the foresaid liquid crystal display panel or liquid crystal display apparatus. The technology disclosed hereinpresent invention is applied to (i) a display panel or display apparatus which has, instead of the switching liquid crystal panel 30 or the patterned retardation plate 20, a parallax barrier made of a light shielding material such as a light shielding metal film or black resin, or (ii) a display panel or display apparatus in which a light shielding material is directly deposited in a stripe pattern on the opposing substrate 12 or the active matrix substrate 14. Needless to say, the display panel or the display apparatus which employs such a parallax barrier can be applied to the display panel or the display apparatus exclusive for (i) the 3D display or (ii) the displays of different images to respective observers.

In the liquid crystal display apparatus of the technology disclosed hereinpresent invention, the displaying liquid crystal panel serves as a main component for preventing a crosstalk due to the diffraction phenomenon occurred in the displaying liquid crystal panel. Thus, the following describes details of the structure of the displaying liquid crystal panel of the present embodiment.

Please amend the paragraph beginning at page 23, line 13, as follows:

With a liquid crystal display panel of the technology disclosed hereinpresent invention, two methods are broadly proposed for reducing the diffraction phenomenon and suppressing a crosstalk.

Please amend the paragraph beginning at page 25, line 4, as follows:

Since such a crosstalk occurs in carrying out a 3D display realized when using a displaying liquid crystal panel having the pixel patterns and a parallax barrier (or in carrying out display which supplies different images to a plurality of observers), the following simulations were performed by setting a slit of the parallax barrier to have a width of 30 μm, 33 μm, and 35 μm, respectively.

Please amend the paragraph beginning at page 24, line 9, as follows:

In other words, in carrying out a 3D display or a display which supplies different video images to a plurality of observers, it is possible to prevent the crosstalk effect on the visibility by setting the width of all the aperture sections appeared in the pixel pattern to satisfy the following inequality[[,]]:

Please amend the paragraphs beginning at page 30, line 3, as follows:

According to Table 1, in order to have a crosstalk value of below 5.2, the aperture section is set to have a width in a range specified by the following inequality[[,]]:

0 < (minimum width of the aperture sections in the pixel) / (maximum width of the aperture sections in the pixel) ≤ 0.037, or

Please amend the paragraph beginning at page 31, line 6, as follows:

The foregoing describes the aperture sections appeared between the Cs and the source lines, by way of taking an example of narrow-gap aperture sections causing diffraction phenomenon, i.e., a cause of crosstalk. However, the locations of the narrow-gap aperture sections causing the diffraction phenomenon are not particularly limited. For example, when the drain electrode of the TFT device is formed of a shielding metal film, aperture sections between the drain electrode and the source lines can be applied for the technology disclosed herein~~present invention~~.

Please amend the paragraph beginning at page 32, line 14, and continuing to page 33, line 12, as follows:

According to the present embodiment, the foregoing describes a liquid crystal panel adopting an active matrix substrate which may possibly have narrow-gap aperture sections, by way of taking an example of a display-use panel causing the crosstalk issue. However, the present invention is not limited to the liquid crystal panel used as a displaying panel. Apart from the liquid crystal panel, for example, an organic EL panel is considered to serve as a display panel using an active matrix substrate. Even by using an organic EL panel as a displaying panel, if narrow-gap aperture sections appear in a pixel patterns on the panel, a similar problem will occur. Thus, the technology disclosed herein~~present invention~~ is applied to a display apparatus using an organic EL panel or the like as a displaying panel.

As described above, a display panel of the technology disclosed herein~~present invention~~ includes: display image generating means for generating a display image according to inputted display data; and display image separating means for separating the display

image, at one time or in a time division manner, according to a plurality of viewpoints, the display image generating means being an active matrix type display panel, aperture sections in each pixel pattern of the display panel having a width set so as to satisfy the following inequality[[,]]:

Please amend the paragraphs beginning at page 34 line 3, as follows:

Further, in the display panel, the width of the aperture sections in the pixel pattern of the active matrix type display panel is set to satisfy the following inequality[[,]]:

$0 <$ (minimum width of the aperture sections in the pixel) / (maximum width of the aperture sections in the pixel) ≤ 0.037, or

Please amend the paragraph beginning at page 36, line 13, as follows:

Further, according to the technology disclosed herein~~present invention~~, a display panel includes: display image generating means for generating a display image according to inputted display data; and display image separating means for separating the display image, at one time or in a time division manner, according to a plurality of viewpoints, the display image generating means being an active matrix type display panel, aperture sections in each pixel pattern of the display panel having a width set so as not to fall within a range specified by the following inequality:

Please amend the paragraph beginning at page 37, line 22, and continuing to page 38, line 1, as follows:

In the display panel having the above structure, a narrow gap aperture section tends to appear between the Cs (auxiliary capacitor) and the source lines and causes a crosstalk. Thus, the technology disclosed herein~~present invention~~ is preferably applied to such a display panel.